1. (twice amended) A recombinant immunoconjugate, comprising a therapeutic agent or a detectable label covalently linked to a recombinant antibody that binds an extracellular epitope of CD22 (an "anti-CD22 antibody") having a V_H with a cysteine at amino acid position 44 and a V_L with a cysteine at amino acid position 100; wherein the anti-CD22 antibody is a binding fragment that competes for binding to a same epitope as an RFB4 disulfide-stabilized Fv (dsFv) comprising a variable heavy (V_H) chain as set out in SEQ ID NO:2, in which a Cys residue is substituted for Arg at position 44; and a variable light (V_L) chain as set out in SEQ ID NO:4, in which a Cys residue is substituted for Gly at position 100, and has 90% or greater of the binding affinity of the RFB4 ds(Fv).

D1

5. (twice amended) The recombinant immunoconjugate of claim 1, wherein said anti-CD22 antibody is an RFB4 disulfide-stabilized Fv (dsFv) comprising a variable heavy (V_H) chain as set out in SEQ ID NO:2, in which a Cys residue is substituted for Arg at position 44; and a variable light (V_L) chain as set out in SEQ ID NO:4, in which a Cys residue is substituted for Gly at position 100.

D2

8. (twice amended) The recombinant immunoconjugate of claim 5, wherein said V_H chain is covalently linked to said V_L chain through a linker peptide.

D3 SUB FI

9. (once amended) The recombinant immunoconjugate of claim 5, wherein said V_H chain is linked to said V_L chain through a cysteine-cysteine disulfide bond.

D4 SUB FI

11. (twice amended) An expression cassette encoding a recombinant immunoconjugate comprising a sequence encoding for a toxin peptide and an antibody that binds to an extracellular epitope of CD22 (an "anti-CD22" antibody) having a V_H encoding for a cysteine at amino acid position 44 and a V_L encoding for a cysteine at

D5